RIVER STAGES AND FLOODS FOR FEBRUARY 1948

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Precipitation during February was above normal in most of the area between the Alleghenies and the Rocky Mountains. It was also above normal in the Pacific Northwest and the northeastern portion of the South Atlantic States. Precipitation was extremely heavy over New Mexico and ranged from two to four times the normal amount. It was moderately heavy over North Dakota and the northwestern quadrant of the Southern States, with monthly amounts averaging 50 percent above normal. Drought conditions prevailed again in Maine for the seventh consecutive month. Precipitation was one-half normal over Florida and the southern portions of the adjacent States.

The frequent snow during the first week of February had little effect on the depth of the snow cover except in the western mountain ranges where increases up to 2 feet were reported. During the second week, heavy snow of from 2 to 9 inches occurred over the central Great Plains, Iowa, and Missouri. The heaviest snow in the East occurred during the week-end of the 21st and covered an area from the Ohio Valley and Virginia to New England. A second storm caused light to heavy snows in the central Great Plains. A severe storm towards the end of the month caused light to heavy snow from the Dakotas to New England. The snow cover at the end of the month extended roughly along a line from New York City to the southwestern tip of New Mexico. On February 29 the greatest snow depth along the Atlantic Coast was 26 inches at First Connecticut Lake in New Hampshire; in the Ohio Valley no snow was reported; in the Lake Region, 40 inches at Ironwood, Mich.; in the Upper Mississippi Valley, 22 inches at Leech Lake Dam, Minn.; in the Missouri Valley, 23 inches at Fargo, N. Dak.; in the Mountain Region, 60 inches at Cumbres, Colo.; and along the Pacific Coast, 133 inches at Snoqualmie Pass, Wash.

During the first decade of the month the ice increased in thickness in streams of the North Central areas, the Lake Region, and the Northeastern States. Ice jams were reported on the Ohio and Potomac Rivers near the middle of the month, and the ice in the streams was generally decreasing in thickness except in the extreme northern portions. By the end of the second decade, the ice had completely disappeared from many streams in the middle latitudes, and the threatening ice jams in the Ohio and Potomac Rivers were broken. By the end of the month the ice was disappearing from the streams as far north as the Great Lakes. The ice was increasing in thickness only in northern New England, where thickness varied from 5 inches at Hartford, Conn., to 33 inches at Greenville, Maine. In the Lake Region it varied from 3.5 inches at Erie, Pa., to 31 inches at Escanaba, Mich. In the Upper Mississippi Valley the greatest ice depth reported was 26 inches at Minneapolis, Minn.; and in the Missouri Valley, 33.5 inches at Bismarck, N. Dak.

The temperatures were slightly above normal during February east of the Mississippi River, except in the New England States where the temperatures ranged from 2° to 6° below normal. West of the Mississippi, the temperatures were slightly below normal, except in the northwestern portion of the country and the southern portion of the Missouri Valley.

River stages during the month were above normal east of the Mississippi River except in the Northeastern States and at a few scattered points in the Ohio Valley. West of the Mississippi River stages were below normal in the Arkansas Basin and in California and Arizona. Record-breaking floods occurred in several streams over a broad area from Ohio to the Gulf of Mexico, and minor flooding occurred in the North-Central States from moderate rains that followed the ice break-up. Light to moderate flooding occurred along the St. Lawrence and Atlantic Slope drainage areas. On the other hand, in California and Arizona dry conditions prevailed, causing hydro-electric power shortages; and in the Northeast, although the drought decreased in area, run-off was still seriously deficient in northern New England.

St. Lawrence drainage.—Minor flooding occurred in parts of the Saginaw and upper Grand Basins at the close of February and the beginning of March. A report on the conditions that led to the flood in the Lake Michigan drainage area indicated that contributing factors were the cold and snowy weather that prevailed during the first half of February. Ice had become heavy in all streams, up to 16–18 inches in the upper Saginaw Basin. When the weather became milder during the last half of February, and rains of 1 to 1½ inches were recorded over the Upper Grand River, the combination began to break up the ice, resulting in inevitable ice jams. On the 28th, the Shiawassee at Owosso and the Red Cedar at Williamston began to overflow. By the 29th the Red Cedar at East Lansing and the Grand at Lansing left their channels. Crests were reached on the 28th or 29th and were generally minor or moderate in scope. A return to colder weather on the 29th doubtless checked the rise to some extent.

Light to moderate flooding occurred in the Lake Erie drainage in the St. Joseph, St. Marys, Maumee, and Sandusky Rivers between the 4th and the 29th. The flooding on the Maumee River resulted from backwater as the ice broke and jammed downstream. The excessive run-off from the melting snow and thawing soil caused the ice to break up. Another quick rise occurred on the Maumee River at Fort Wayne, Ind., on February 27–28 from a heavy overnight rain falling on frozen ground. The river at Fort Wayne rose from 6.6 to 16.6 feet overnight.

Atlantic Slope drainage.—Considerable flooding occurred during February along the Atlantic Slope drainage area from New York to Georgia. Light flooding occurred in the lower Potomac River 6 miles above Washington, D. C., on the 16th and 17th, due to the backwater from the severe ice jam which had formed between Key Bridge and Chain Bridge. The ice on the Potomac at Washington was the thickest it had been for several years, with 8 inches of solid ice between Key Bridge and Chain Bridge, and 10 inches above Key Bridge; there was a complete ice cover of from 4 to 8 inches in the upper Potomac, except at Cumberland, Md., which was free of ice, and tributaries were covered with 2 to 4 inches. The ice started to break up in the headwaters on the 13th due to unseasonably high temperatures, light rain, and heavy run-off from the dense snow cover, which averaged 8 inches deep above Cumberland, Md., immediately prior to this date. Minor damage occurred in the Washington area and in the headwaters in West Virginia from the crushing effects of the ice floes and was confined generally to bridges and waterfront property.

Moderate flooding occurred in the James River below Scottsville, Va., during the period February 14–17, 1948. Above Scottsville the crests were from 0.5 foot to 3.5 feet below flood stage. No damage was reported.

Flooding occurred on all of the rivers in eastern North Carolina during February. Sleet and snow which fell over the watersheds on the night of January 31, averaged nearly 8 inches in depth over the Cape Fear and Neuse

River basins, and near 15 inches over the Tar area and the upper reaches of the Roanoke River. It melted slowly, much of it remaining on the ground in protected places through a series of light rains. On the 10th, another general snowstorm covered the watersheds, with approximately the same distribution as the earlier storm. Frequent light rains from the 11th through the 13th, with considerable warming on the 13th, caused rapid melting of the snow and sleet, with all rivers in the district rising rapidly to above-flood levels. A general rain on the 21st, averaging about 0.75 inch over the watersheds, prolonged the flooded condition and caused double crests. However, the most distinguishing feature of these floods was the fact that rises in lower river sections were unusually large relative to rises in the upper reaches of the rivers. On the headwaters of the Waccamaw, a small river that rises near the mouth of the Cape Fear and flows southwestward into South Carolina, stream flow exceeded that of the unusual floods of 1945. Autumn rainfall had been unusually heavy and winter precipitation had been persistent, with few periods when appreciable drying took place. As a result, the soil had been near saturation since early autumn and the run-off rate had been high.

Approximately a thousand acres of farm lands were inundated but damage to crops was limited mostly to the overflowing of plant beds. In the Kinston area many homes and business establishments were flooded, but the chief monetary loss was due to the flooding of railways and highways, damage to bridges and abutments, and the undermining of roadbeds.

Moderate to heavy rains over South Carolina on the 12th–13th caused moderate flooding in the streams in that State. The flooding was augmented by the run-off from the melting snow. Damages resulting from the flooding were generally light, as the lowlands had not been planted because of the wet conditions prevailing in the fall. Several thousand dollars loss was credited to the suspension of logging and timber-cutting operations, although these activities had been more or less retarded since November 1947, as the swamps were full of water. A number of livestock were lost during the flooding along the Pee Dee River.

Frequent moderate to excessive rains from the 8th to the 14th caused considerable flooding along the Savannah, Ogeechee, Ocmulgee, Oconee, and Altamaha Rivers in Georgia during the month. Accumulated amounts of rainfall during this period ranged from less than 1 inch to more than 4 inches in headwater sections. The heaviest falls occurred from the 8th to the 10th, with 24-hour amounts of 1 to 3 inches at several stations. The only areas not above flood stage in the Altamaha River system included a portion of the Ocmulgee from about 25 miles north of Hawkinsville, Ga., to a point about 40 or 50 miles downstream, and the lower part of the Altamaha River from Doctortown, Ga., to the coast. The rivers exceeded flood stage over most of the Altamaha system from 2 to 9 feet. The damages in the State were light, with the greatest loss resulting from the suspension of the usual business operations along the rivers. This loss was somewhat compensated by floating out timber from points that logging trucks cannot reach under normal conditions.

East Gulf of Mexico drainage.—Considerable flooding occurred in the streams in Georgia, Alabama, and Mississippi from the heavy rain that resulted from the eastnortheastward movement of the disturbance along the drainage area from the 5th to the 9th. Several stations were still in flood at the end of the month, as additional heavy rain occurred up to the 14th.

In the Apalachicola River system in Florida and Georgia, flood stage was exceeded only in the lower Apalachicola River and along 30 miles of the Flint River between Albany, Ga., and Newton, Ga. The Apalachicola River reached a stage of 21 feet at Blountstown, Fla., on the 15th and 16th, or 6 feet above flood stage; the Flint, 22.4 feet at Albany, Ga., on the 15th, or 2.4 feet above flood stage; the Etowah, 1.2 feet above at Cartersville, Ga., on the 13th; and the Oostanaula River, 6.8 feet above at Resaca, Ga., on the 15th, and 2.5 feet above at Rome, Ga., on the 14th. No damage of consequence resulted, but the monetary losses resulting from the suspension of business and the emergency costs for protecting property ran into several thousands of dollars.

In the State of Mississippi, the Pearl River went 3.2 feet above flood stage at Edinburg on the 14th; 11.1 feet above at Jackson on the 22d; 3.2 feet above at Monticello on the 26th; 1.0 feet above at Columbia on the 17th and 2.9 feet above at Pearl River, La., on the 20th. The flooding on the Pearl River was caused by heavy rain that occurred over the basin on the 8th and 9th. An average of 1.23 inches occurred over the headwaters of the Pearl River above Edinburg on the 8th. On the 9th an additional 1.23 inches occurred over the area as far south as Jackson. An average of 1.38 inches occurred over the local area above Monticello.

On the Chickasawhay River an average of 1.86 inches occurred over the local area above Waynesboro, Miss., on the 9th, causing a stage of 20.5 feet, 0.5 foot above flood stage, at Enterprise, Miss., on the 16th. Record stages were reached on the Tombigbee River at Aberdeen, Miss., on the 15th and Columbus, Miss., on the 16th. The previous maximum stage of 43.0 feet had occurred at Aberdeen on March 30, 1944, and 37.6 feet at Columbus on April 1, 1944.

In Alabama, the Tombigbee River reached a stage of 51.0 feet at Gainesville on the 21st, 15 feet above flood stage, or 0.4 foot above the record stage of April 5, 1944; 62.1 feet at Demopolis on the 23d, 23.1 feet above flood stage; 59.8 feet at Lock No. 3 on the 24th and 25th, or 26.8 feet above flood stage; 61.5 feet at Lock No. 2 on the 25th or 15.5 feet above; and 42.3 feet at Lock No. 1 on the 28th, or 11.3 feet above flood stage. The flooding on the Tombigbee River was caused by the heavy rains of February 10–14, which averaged over 6 inches in the area north of Aberdeen, Miss. The largest amount, 7.8 inches, was recorded at Booneville, Miss. The Tombigbee River in Alabama was still in flood at the end of the month below Gainesville. The Black Warrior River in Alabama reached a stage of 13.0 feet above flood stage at Tuscaloosa on the 14th and 17.8 feet above at Lock No. 7 on the 17th. The flooding was caused by the heavy rains, averaging 3.25 inches, that occurred over the basin between the 10th and 14th. The Coosa River reached a stage of 26.4 feet at Gadsden, Ala., on the 16th, or 6.4 feet above flood level; the Cahaba River crested at 26.0 feet, 3.0 feet above flood stage at Centerville, Ala., on the 9th; and the Alabama River crested at 45.5 feet, 5.5 feet above flood level at Millers Ferry, Ala., on the 16th. The damage on the Tombigbee River from Gainesville northward was considerable, but on the Black Warrior it was very small.

Upper Mississippi Basin.—Moderate to heavy rains on the 1st and 2d in the Bourbeuse and Meramec Basins caused light to moderate flooding in the Meramec River at Sullivan, Pacific, and Valley Park in Missouri. No damage resulted from this overflow as no crops had yet been planted. Flash floods occurred in the Zumbro, Whitewater, Root, and Kickapoo Rivers in southern Minnesota during the last few days of February. These

flash floods were caused by moderately heavy rain (nearly 2 inches) falling on hard frozen ground covered with 2 to 5 inches of snow. The excessive surface run-off caused the ice cover to rise in these streams, forming gorges which backed up the water over the banks. No serious damage resulted from this flooding. The only place where homes were evacuated temporarily was at Peterson, Minn., in the upper Root River drainage.

Missouri Basin.—Local flooding occurred along the Elkhorn River at Norfolk, Pilger, and Pierce in Nebraska from the 28th through the end of February and in the Missouri River at Nebraska City, Nebr., on the 22d and 27th. The flooding along the Elkhorn was due to the moderate rains on the 27th and the resulting snow melt. The ice also broke up rapidly on the 27th due to increased stream flow from the melting snow, rain, and the mild temperatures which caused ice gorges at numerous points along the Elkhorn and its tributaries. The ice in the streams was from 14 to 20 inches thick immediately prior to the break-up on the 27th.

Ohio Basin.—Light to heavy flooding occurred in the Ohio River and several of its tributaries in seven States in the Ohio Basin from the 12th to the end of the month.

In West Virginia the flooding occurred from the 13th to the 16th and was caused primarily by rapid run-off from melting snow of high water content. On the morning of February 11, the snow cover in the Little Kanawha Basin ranged from 6 to 7 inches. In the Guyandot River Basin there were 10 inches of snow on the ground on February 2. A mixture of rain and snow between the 4th and 8th reduced this snow cover to about 5 inches. Temperatures were above normal in the Little Kanawha Basin from the 12th to the 16th, averaging between 35° and 45°. Light to heavy rain occurred between the 12th and 14th. Rapid run-off from the melting snow and rain caused flooding on the Little Kanawha at Glenville and Creston, W. Va., from the 14th to the 15th. In the Guyandot River Basin warm rains began on the 10th and spread northward on the 11th through the 14th. The 24-hour amounts were never large, but the run-off from the rainfall and melting snow and ice caused all the streams in the Guyandot River watershed to go out of their banks from the headwaters to Logan, W. Va., including the smaller streams from Logan to the mouth of the river at Huntington, W. Va. One child was drowned at Logan. The crest stage at Logan was 3 feet above flood stage. Flooding occurred on the Middle Fork, Buckhannon, and Tygart Rivers between the 13th and the 15th as a result of the run-off from the rain and melting of the dense snow cover which began on the 13th. The highest water occurred at Philippi, W. Va., on the Tygart River, with a stage of 5.8 feet above flood level. The principal damage was to basements, which were flooded by the backing up of water through storm sewers and drains. One man was drowned in the upper Trout Run.

In Pennsylvania, flooding occurred on the Monongahela River from Greensboro to Braddock from the 14th to the 15th. The flooding was caused by light precipitation (½ inch) augmented by heavy snow melt. On the morning of the 13th the snow on the ground varied from 1 to 20 inches over the basin. Temperatures averaged in the middle thirties.

In the State of Ohio flooding occurred on the Hocking, Olentangy, Scioto, Stillwater, Miami, and Ohio Rivers from the 13th to the 18th. On February 11, the snow cover ranged from 4 to 10 inches over most of the State. The flooding was caused by snow melt and moderate to heavy rain that set in over the State on the 13th. The streams were generally frozen over until the rain on the 13th caused the ice to break up rapidly. No ice jams of importance resulted. The losses in the State were small and were confined mostly to highways. Floods of the same height during the growing season would have caused serious damage.

In Indiana minor flooding occurred on the East Fork, West Fork, and the Wabash Rivers from the 14th through the end of the month.

The only flooding in the State of Illinois occurred on the Ohio River from Dam No. 51 to Cairo from the 16th to the end of the month.

In the State of Kentucky flooding occurred on the Kentucky, Levisa Fork, Licking, Barren, Green, Cumberland, Tennessee, and Ohio Rivers from the 13th through the 29th. The heavy rains which fell between the 11th and 14th on frozen, snow-covered ground over the several tributaries of the Ohio River caused severe flooding of practically all of them. Resulting flow into the Ohio on the crest of the still ice-filled river caused flood stages to be passed at all points in the Louisville District from 2 to 6 feet. Normally the rains and the snow melt would probably have caused little or no flooding of the Ohio; ice conditions were an important contributing factor. Ice gorges which had formed at Madison, Ind., and at Cincinnati and above, held back considerable quantities of water at the beginning of the precipitation period which was accompanied by considerably higher temperatures. River gage readings, which would normally register negligible differences at Cincinnati and Louisville, registered 22.9 feet at Cincinnati on February 10 and only 10.0 feet at Louisville, giving evidence of the amount of water in the river constituting a potential flood danger. The average precipitation for the district amounted to 1.58 inches for the period from February 11 to February 14. No damage was reported as a result of the Ohio flooding, except for the necessity of closing many county roads near the river.

The heavy rains of February 13 resulted in a flash flood on the 13th and 14th in the town of Taylorsville, Spencer County, Ky., a town of about 1,000 population. Fed by rain and melting snow, the Salt River to the east and Brashears Creek to the west and south overflowed their banks, and the water inundated the entire town to depths of 3 to 7 feet, according to reports. The water reached its highest level at about 4 a. m. on the 14th and then subsided quickly. No deaths resulted and the total damage was estimated at about $75,000.

In the State of Tennessee, beginning on the 13th, a major flood occurred throughout the Cumberland River Basin due to the heavy rainfall that occurred from the 12th to the 14th. Several stations reported 24-hour amounts of rainfall from 7½ to 8 inches. The Cumberland crested at a stage of 11.7 feet above flood stage at Celina on the 18th; 13.9 feet above at Carthage on the 15th; 9.7 feet above at Nashville on the 18th; 9.8 feet above at Clarksville on the 16th; and 13.5 feet above at Eddyville on the 23d. A major flood also occurred in the Tennessee River Valley, with the streams cresting from slightly above flood level to nearly 20 feet above flood stage during the period February 12–22. This flood was caused by frequent light rains and snow which occurred over the basin from the middle of January to February 10, and additional heavy rain over the area from the 11th to the 14th. The total rainfall for the storm period averaged nearly 5 inches. Only a small percent of the rain fell over the tributaries of eastern Tennessee. The heaviest rains occurred over the Duck River, where between 8 and 9 inches of rain fell over the basin, mostly during the 48-hour period of the 12th and 13th.

Most of the flooding on the main stream below Chattanooga was confined to agricultural lowlands and secondary roads. In Knoxville, Tenn., 53 families were forced to evacuate their homes when First Creek rose approximately 3 feet above flood stage. Several stores and warehouses also had to be evacuated or banked with sandbags. Damages on the Duck River and other smaller tributaries were heavy. On the main stream below Chattanooga damage was relatively light.

Arkansas and Red Basin.—Minor flooding occurred in the Arkansas Basin on the Poteau River near Poteau, Okla., during the latter part of February. This flooding was caused by an average rainfall of 2.20 inches over the basin from the 25th to the 27th. The heaviest amount reported during this period was 2.48 inches at Poteau. No damages resulted from this overflow.

Minor flooding occurred in the Red Basin in Texas at Hagansport, from the 7th to the 8th and at Naples from the 9th to the 20th.

Lower Mississippi Basin.—Flooding occurred in the Lower Mississippi Basin along the Coldwater, Tallahatchie, and Yazoo Rivers in Mississippi and in the Mississippi River from New Madrid, Mo., to Caruthersville, Mo., between the 13th and the 29th. This flooding was due to heavy rains which ranged from 5 to 7 inches over the Tallahatchie and upper Yazoo River Basins between the 12th and the 14th. Run-off from the rains was heavy, as the ground was well saturated before this storm period. These heavy rains were caused by a disturbance that originated over the southern Rockies. The storm moved across New Mexico into Mexico, after which it recurved and moved northeastward across Louisiana into southwestern Indiana. Several million dollars of damage resulted, as approximately 690,000 acres were overflowed in the Yazoo-Tallahatchie-Coldwater River system.

West Gulf of Mexico drainage.—Flooding occurred along the Sabine River in Texas from the 8th through the 29th. The Sabine rose gradually from below flood stage on the 1st to flood stage at Mineola on the 8th. This overflow was caused by precipitation that averaged less than 1 inch in any 24-hour period plus some snow melt on the 1st. The greatest damage from this flood was to oil fields at Gladewater, Tex.

Pacific Slope drainage.—Flooding occurred in the Columbia River Basin for the second consecutive month. It was not a major flood, as the one in January, but it was of more than ordinary importance. The freshet of February 22–26 was caused primarily by the heavy rain of the 21st and 22d that fell on a soil that was already well saturated from the light to moderate rain of the preceding week, and to a minor extent by the snow melt at higher elevations. Flooding occurred along the Willamette River from Eugene, Oreg., to Oregon City, Oreg., a distance of 137 miles. Flooding also occurred on several tributaries of the Willamette, namely, the Coast Fork, McKenzie, Santiam, South Yamhill, Molalla, and Tualatin Rivers. The flooding on the lower Santiam River exceeded that of the other tributaries. The major damage resulting from the freshet was to river banks, revetments and erosion of top soil. There was only minor damage to tangible property.

Flooding occurred in the Palouse River at Colfax and Pullman, Wash., at the time flooding was well under way in the Willamette River. The South Palouse River continued at near-flood stage through January and early February and crested at approximately 10 p. m., on February 26. No stages are available for this river. The water inundated the trailer camp, damaging 117 trailers. The business section of Pullman was flooded, and sections of Colfax were under water. Some damage occurred in the rural areas in the vicinity of the two towns. Only minor damage was done to residences in the vicinity.

FLOOD STAGE REPORT FOR FEBRUARY 1948

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE					
Lake Michigan					
Red Cedar:	*Feet*			*Feet*	
Williamston, Mich	7	28	28	7.9	28
East Lansing, Mich	8	29	(2)	9.3	29
Grand: Lansing, Mich	11	29	(2)	11.0	29
Shiawassee: Owosso, Mich	7	29	(2)	7.1	29
Lake Erie					
St. Marys: Decatur, Ind	13	17	(2)	15.3	19
St. Joseph: Montpelier, Ohio	10	20	24	13.3	21
Maumee:					
Fort Wayne, Ind	15	28	(2)	16.6	29
Defiance, Ohio	10	19	23	13.5	20
Napoleon, Ohio	10	19	19	10.5	19
Sandusky: Upper Sandusky, Ohio	13	14	15	14.2	15
ATLANTIC SLOPE DRAINAGE					
Lehigh: Lehighton, Pa	9	21	21	9.1	21
Chenango: Sherburne, N. Y	8	20	20	8.2	20
Chemung: Chemung, N. Y	12	20	20	12.0	20
Susquehanna: Oneonta, N. Y	12	20	20	13.35	20
Potomac: Washington (near), D. C	10	16	16	10.6	16
		16	17	10.1	17
James:					
Bremo Bluff, Va	19	14	16	23.5	15
Columbia, Va	18	14	16	24.9	15
State Farm, Va	12	15	17	16.4	16
Richmond, Va	8	15	17	11.5	16
Dan: Clarksville, Va	13	16	16	13.3	16
Roanoke:					
Alta Vista, Va	10	14	16	22.4	15
Randolph, Va	21	15	17	26.4	16
Weldon, N. C	31	15	19	41.8	17
Scotland Neck, N. C	28	15	22	33.8	18
Williamston, N. C	10	10	(2)	13.1	22
Tar:					
Rocky Mount, N. C	9	14	19	10.8	16
Greenville, N. C	13	9	25	17.8	19
Neuse:					
Neuse, N. C	14	7	10	15.1	9
		14	20	19.3	17
Smithfield, N. C	13	7	22	20.4	16
Goldsboro, N. C	14	7	(2)	24.5	19
Kinston, N. C	14	8	(2)	20.8	22
Cape Fear:					
Moncure, N. C	20	14	15	21.7	15
Fayetteville, N. C	35	14	17	49.7	16
Lock No. 2, Elizabethtown, N. C	20	6	21	32.9	17
Lynches: Effingham, S. C	14	14	21	14.7	16
Waccamaw: Conway, S. C	7	11	(2)	8.5	24, 25
Pee Dee:					
Cheraw, S. C	30	13	17	39.0	14
Pee Dee, S. C	19	8	27	26.4	19
Black: Kingstree, S. C	12	11	18	12.8	14, 15
Saluda:					
Pelzer, S. C	6	12	16	7.0	14
Chappells, S. C	13	9	10	14.5	9
Broad:					
Gaffney, S. C	10	13	13	11.2	13
Blairs, S. C	14	13	15	20.5	14
Catawba: Catawba, S. C	11	13	14	14.7	13
Wateree: Camden, S. C	23	14	16	27.7	14
Edisto:					
Orangeburg, S. C	8	9	20	9.5	14
		23	24	8.1	24
Givhans Ferry, S. C	10	2	(2)	13.7	15, 16
Savannah: Butler Creek, Ga	21	9	16	23.7	10
Ogeechee:					
Midville, Ga	6	11	11	6.0	11
		13	18	6.8	14
Dover, Ga	7	Jan. 21	(2)	9.0	14, 18
Ocmulgee:					
Macon, Ga	18	10	13	20.0	11
Abbeville, Ga	11	12	25	14.8	17
Lumber City, Ga	12	----------	----------	16.0	21
Oconee:					
Milledgeville, Ga	20	9	15	26.6	10
Dublin, Ga	21	13	19	24.6	16
Mt. Vernon, Ga	16	14	24	19.1	18
Altamaha:					
Charlotte, Ga	12	Jan. 25	(2)	20.7	21
Piney Bluff, Ga	17	12	(2)	21.0	21
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga	20	14	18	22.4	15
Apalachicola: Blountstown, Fla	15	Jan. 25	(2)	21.0	15, 16
Oostanaula:					
Resaca, Ga	22	13	18	28.8	15
Rome, Ga	25	13	17	27.5	14

See footnotes at end of table.

FLOOD STAGE REPORT FOR FEBRUARY 1948—Continued

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates From—	To—	Crest [1] Stage	Date
EAST GULF OF MEXICO DRAINAGE—con.					
	Feet			*Feet*	
Etowah: Cartersville, Ga	18	13	14	19.2	13
Coosa: Gadsden, Ala	20	9	23	26.4	16
Cahaba: Centerville, Ala	23	9	10	26.0	9
Alabama: Millers Ferry, Ala	40	12	23	45.5	16
Black Warrior:					
Tuscaloosa Lock and Dam, Ala	47	8	17	60.0	14
Lock No. 7, Eutaw, Ala	35	9	26	52.8	17
Tombigbee:					
Aberdeen, Miss	34	13	20	44.1	15
Columbus, Miss	29	14	21	38.3	16
Gainesville, Ala	36	10	Mar. 2	51.0	21
Lock No. 4, Demopolis, Ala	39	9	(2)	62.1	23
Lock No. 3, Whitfield, Ala	33	Jan. 31	6	40.0	3
		7	(2)	59.8	24, 25
Lock No. 2, Pennington, Ala	46	10	(2)	61.5	25
Lock No. 1, Salitpa, Ala	31	11	(2)	42.3	28
Chickasawhay: Enterprise, Miss	20	16	16	20.5	16
Pearl:					
Edinburg, Miss	20	10	20	23.2	14
Jackson, Miss	18	8	(2)	29.1	22
Monticello, Miss	15	11	18	18.2	26
		20	(2)		
Columbia, Miss	17	15	18	18.0	17
		26	(2)	17.5	28
Pearl River, La	12		10	14.9	20
		13	(2)		
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Pecatonica: Freeport, Ill	10	28	(2)	14.7	29
Rock: Moline, Ill	10	28	(2)		
Cedar: Waterloo, Iowa	15	29	(2)		
Iowa: Wapello, Iowa	10	29	(2)		
Zumbro: Thielman, Minn	35	28	(2)	37.9	29
Whitewater: Beaver, Minn	7	28	28	8.3	28
Root: Houston, Minn	15	28	Mar. 1	17.5	29
Skunk: Augusta, Iowa	15	19	20	15.5	20
		29	(2)		
Illinois:					
Morris, Ill	13	28	(2)	15.3	29
Peru, Ill	17	28	Mar. 1	18.9	29
Meramec:					
Sullivan, Mo	11	2	2	12.2	2
Pacific, Mo	11	3	4	14.4	3
Valley Park, Mo	14	3	4	17.4	3
Mississippi:					
Hanibal, Mo	13	29	(2)		
Louisiana, Mo	12	19	25	13.6	22
		29	(2)		
Missouri Basin					
Little Blue:					
Endicott, Nebr	9	27	(2)	12.8	28
Hanover, Kans	14	28	(2)	17.7	29
Big Blue:					
Beatrice, Nebr	16	28	Mar. 1	20.6	29
Barnston, Nebr	18	27	Mar. 1	23.1	28
				22.9	29
Blue Rapids, Kans	20	27	Mar. 1	26.3	27–28
				25.9	Mar. 1
Randolph, Kans	22	Mar. 1	Mar. 1	22.3	Mar. 1
Elkhorn:					
Norfolk, Nebr	10	28	(2)	12.5	28
Pilger, Nebr	12	29	(2)	12.6	29
Pierce (near), Nebr	12	28	28	13.1	28
Grand: Chillicothe, Mo	18	28	(2)	25.5	28
Floyd: James, Iowa	14	17	19	17.0	18
Missouri: Nebraska City, Nebr	15	22	22	15.1	22
		27	27	18.4	27
Ohio Basin					
Allegheny:					
Parkers Landing, Pa	20	16	17	21.8	16
Lock No. 8, Mosgrove (near), Pa	24	20	20	25.0	20
Lock No. 5, Shenley, Pa	24	20	20	24.0	20
Cheat: Rowlesburg, W. Va	12			12.0	14
Middle Fork: Midvale, W. Va	11	13	14	14.0	14
Buckhannon: Hall, W. Va	12	13	15	15.0	14
Tygart:					
Dailey, W. Va	9	14	15	12.4	14
Belington, W. Va	14	14	15	16.3	14
Philippi, W. Va	17	14	15	22.8	14
West Fork:					
Weston, W. Va	17	14	14	20.1	14
Clarksburg, W. Va	7	14	15	10.2	14
Monongahela:					
Lock No. 7, Greensboro, Pa	30	14	15	38.6	14
Lock No. 5, Brownsville, Pa	23.5	14	15	28.6	14
Lock No. 4, Charlerol, Pa	30	14	15	30.8	14
Lock No. 3, Elizabeth, Pa	23	14	15	26.8	15
Lock No. 2, Braddock, Pa	20.5	14	15	25.3	15

See footnotes at end of table.

FLOOD STAGE REPORT FOR FEBRUARY 1948—Continued

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates From—	To—	Crest [1] Stage	Date
MISSISSIPPI SYSTEM—continued					
Ohio Basin—Continued					
Little Kanawha:	*Feet*			*Feet*	
Glenville, W. Va	23	14	15	26.3	14
Creston, W. Va	20	14	15	22.7	14
Hocking:					
Enterprise, Ohio	12	14	15	14.6	14
Athens, Ohio	17	14	16	19.5	15
Guyandot: Logan, W. Va	20	13	14	23.0	14
Levisa Fork: Pikeville, Ky	36	14	15	36.2	15
Olentangy: Delaware, Ohio	9	14	15	10.0	15
Scioto:					
La Rue, Ohio	11	14	17	12.3	15
Circleville, Ohio	14	15	17	18.7	15
Chillicothe, Ohio	16	15	17	20.3	16
Piketon, Ohio	15	14	18	22.2	15
Little Miami: Kings Mills, Ohio	17	13	14	20.7	14
Licking: Falmouth, Ky	28	13	15	33.5	14
Stillwater: Pleasant Hill, Ohio	13	14	15	14.4	15
Miami: Middletown, Ohio	15	14	15	15.6	15
North Fork: Jackson, Ky	29	13	15	41.6	14
Kentucky:					
Lock No. 14, Heidelberg, Ky	30	14	15	31.3	15
Lock No. 10, Ford, Ky	30	15	17	33.3	16
Lock No. 4, Frankfort, Ky	31	15	19	35.3	18
Rough: Dundee, Ky	25	14	19	27.6	17
Barren: Bowling Green, Ky	28	14	18	39.6	15
Green:					
Munfordville, Ky	28	14	18	39.9	16
Lock No. 6, Brownsville, Ky	28	14	20	40.7	17
Lock No. 4, Woodbury, Ky	33	14	22	47.0	17
Lock No. 2, Rumsey, Ky	34	16	(2)	41.1	23
West Fork:					
Anderson, Ind	10	15	15	10.5	15
Edwardsport, Ind	12	17	21	13.3	19
East Fork: Seymour, Ind	14	14	15	15.5	14
Wabash:					
Bluffton, Ind	10	17	17	10.7	17
Wabash, Ind	12	16	16	13.5	16
		28	(2)	15.7	28
Lafayette, Ind	11	18	19	13.8	18
		29	(2)	16.3	29
Covington, Ind	16	20	20	18.9	19
		29	(2)	16.4	29
New: New River, Tenn	18	13	14	28.2	14
Cumberland:					
Williamsburg, Ky	19	13	17	26.6	15
Burnside, Ky	50	14	15	66.3	14
Celina, Tenn	40	15	20	51.7	18
Carthage, Tenn	40	13	21	53.9	15
Nashville, Tenn	40	13	24	49.7	18
Clarksville, Tenn	46	14	26	55.8	16
Lock F, Eddyville, Ky	50	15	Mar. 2	63.5	23
French Broad: Asheville, N. C	6	12	14	6.6	12, 14
Elk: Prospect, Tenn	21	12	18	38.1	14
Duck: Columbia, Tenn	32	12	17	51.75	14
Tennessee:					
Chattanooga, Tenn	30	13	15	33.8	14
Guntersville, Tenn	50	12	20	62.2	15
Florence, Ala	18	12	20	25.8	14
Pickwick Dam, Tenn	43	12	21	54.1	16
Savannah, Tenn	39	13	22	50.7	17
Kentucky Dam, Ky	31	13	(2)	50.1	19, 20
Ohio:					
Midland, Pa	30	15	15	32.2	15
Point Pleasant, W. Va	40	15	17	43.7	16
Dam No. 28, Huntington, W. Va	50	16	17	51.1	16
Dam No. 29, Ashland, Ky	51	15	18	54.7	16
Dam No. 30, near Greenup, Ky	52	15	18	55.0	17
Portsmouth, Ohio	50	16	18	53.3	17
Dam No. 33, near Maysville, Ky	50	16	19	53.0	17
Dam No. 34, Chilo, Ohio	49	17	19	50.4	18
Cincinnati, Ohio	52	17	19	54.0	18
Dam No. 37, Fernbank, Ohio	50	17	20	53.6	18
Dam No. 39, Markland, Ind	48	18	19	48.3	19
Dam No. 41, Louisville, Ky.—					
Upper gage	28	17	21	31.7	20
Lower gage	55	17	21	58.4	20
Dam No. 43, Evans Landing, Ind	57	18	21	59.8	20
Dam No. 44, Leavenworth, Ind	53	17	23	59.3	20
Dam No. 45, Addison, Ky	47	17	23	51.1	20
Tell City, Ind	38	17	24	43.8	20
Dam No. 46, Owensboro, Ky	41	19	24	42.7	21
Dam No. 47, Newburgh, Ind	38	17	28	47.7	21
Evansville, Ind	42	21	24	42.6	22
Dam No. 48, near Henderson, Ky	38	18	28	44.2	22
Mount Vernon, Ind	35	18	(2)	41.2	23
Dam No. 49, Uniontown, Ky	37	19	(2)	42.2	24
Shawneetown, Ill	33	17	(2)	42.4	24
Dam No. 50, Fords Ferry, Ky	34	17	(2)	45.5	25
Dam No. 51, Golconda, Ill	40	19	(2)	44.1	25
Paducah, Ky	39	17	Mar. 1	45.8	22
Dam No. 52, Brookport, Ill	37	16	(2)	47.2	22
Dam No. 53, near Mound City, Ill	42	16	(2)	50.4	22
Cairo, Ill	40	17	(2)	46.8	23

See footnotes at end of table.

FLOOD STAGE REPORT FOR FEBRUARY 1948—Continued

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—continued					
White Basin					
	Feet			*Feet*	
Current: Doniphan, Mo	10	2	2	11.5	2
Black: Poplar Bluff, Mo	16	2	5	18.1	3
Arkansas Basin					
Poteau: Poteau, Okla	21	26	(2)	28.5	28
Red Basin					
Sulphur:					
Hagansport, Tex	38	7	8	38.4	7
Naples, Tex	22	9	20	24.9	13
Lower Mississippi Basin					
Coldwater: Sarah, Miss	18	13	16	21.6	13
Tallahatchie: Swan Lake, Miss	26	13	(2)	32.2	17
Yazoo:					
Greenwood, Miss	35	16	(2)	40.0	21
Yazoo City, Miss	29	22	(2)	31.6	
Mississippi:					
New Madrid, Mo	34	21	(2)	36.5	25, 26, 27
Caruthersville, Mo	32	21	(2)	34.7	26–27
Atchafalaya Basin					
Atchafalaya: Atchafalaya, La	25	26	(2)	25.6	29

See footnotes at end of table.

FLOOD STAGE REPORT FOR FEBRUARY 1948—Continued

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
WEST GULF OF MEXICO DRAINAGE					
Sabine:	*Feet*			*Feet*	
Mineola, Tex	14	8	17	16.3	13
Gladewater, Tex	26	14	21	28.0	18
Logansport, Tex	25	15	16	25.2	15
Bon Wier, Tex	17	12	20	18.1	15
		22	(2)	17.6	26
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Coast Fork: Saginaw, Oreg	9	22	22	9.5	22
McKenzie:					
Leaburg, Oreg	12	22	22	17.7	22
Armitage Bridge, Oreg	11	22	22	13.5	22
Santiam: Jefferson, Oreg	13	22	24	19.9	22
South Yamhill:					
Willamina, Oreg	8	22	22	9.8	22
Whiteson, Oreg	38	23	23	39.9	23
Tualatin: Dilley, Oreg	12	22	22	12.1	22
Willamette:					
Eugene, Oreg	12	22	22	13.6	22
Harrisburg, Oreg	12	22	24	17.2	23
Corvallis, Oreg	20	23	24	23.2	23
Albany, Oreg	20	24	24	23.3	24
Oregon City, Oreg	12	24	26	13.0	25
Snohomish Basin					
Snohomish: Snohomish, Wash	20	27	27	20.4	27

[1] Provisional. [2] Continued at end of month.